

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	68	568/70 568/72 568/73	US-PGPUB; USPAT; EPO	OR	ON	2007/08/21 12:08
L2	67	568/69	US-PGPUB; USPAT; EPO	OR	ON	2007/08/21 12:08
L3	125	I1 or I2	US-PGPUB; USPAT; EPO	OR	ON	2007/08/21 12:08
L4	1638046	iron or cobalt or nickel or ruthenium or rhodium or palladium or osmium or iridium or platinum	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 12:10
L5	56	I3 and I4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 12:10
L6	32	I1 and I4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:04
L7	2271	FREMY.in. ESSAYEM.in. LACROIX.in. ZAUSA.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:05
L8	1	I7 and I3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:06
L9	153	I7 and I4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:06
L10	76	I9 and hydrogen	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:06

## EAST Search History

L11	64	I10 and acid	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:06
L12	9	I11 and sulfide	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:07
L13	9	I11 and sulphide	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:07
L14	9	I12 or I13	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:07
L15	9	I14 not I6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:12
L16	40	"2739132"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:13
L17	9	"3474042"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:14
L18	6	"5543036"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:15
L19	10	"3036133"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:19
L20	16	"5420092"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:23

## EAST Search History

L21	64	"5113034"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:24
L22	16	"2950324"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:27
L23	13	"2951875"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:28
L24	5	"5453544"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:29
L25	25	"4102931"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:31
L26	3	"6162952"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:51
L27	101	I3 and hydrogen	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:52
L28	77	I27 and sulfide	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:52
L29	77	I27 and sulphide	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:52
L30	77	I28 or I29	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:53

## EAST Search History

L31	46	I30 not I6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:53
L32	46	I31 not I15	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 13:53
L33	22	I32 and olefin	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 14:30
L34	27	568/72	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 14:31
L35	20	568/73	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 14:31
L36	37	I34 or I35	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 14:31
L37	23	I36 not I6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 14:31
L38	10	I37 not I33	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/08/21 14:32

## STN TEXT SEARCH.

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FILE LAST UPDATED: 20 Aug 2007 (20070820/ED)

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=> s iron or cobalt or nickel or ruthenium or rhodium or palladium or osmium or iridium or platinum

1028278 IRON

394647 COBALT

647592 NICKEL

98210 RUTHENIUM

72816 RHODIUM

169918 PALLADIUM

26033 OSMIUM

43185 IRIDIUM

222182 PLATINUM

L1 2077944 IRON OR COBALT OR NICKEL OR RUTHENIUM OR RHODIUM OR PALLADIUM OR OSMIUM OR IRIDIUM OR PLATINUM

=> s 11 and acid

4422696 ACID

L2 292260 L1 AND ACID

=> s 12 and hydrogen sulfide

1010335 HYDROGEN

330811 SULFIDE

54935 HYDROGEN SULFIDE

(HYDROGEN (W) SULFIDE)

L3 2041 L2 AND HYDROGEN SULFIDE

=> s 13 and olefin

104998 OLEFIN

L4 13 L3 AND OLEFIN

=> d 14 ibib abs 1-

YOU HAVE REQUESTED DATA FROM 13 ANSWERS - CONTINUE? Y/ (N) :y

L4 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2006:1157727 CAPLUS  
 DOCUMENT NUMBER: 145:474389  
 TITLE: Cracked naphtha oligomerization-hydrodesulfurization  
 for manufacture of gasoline blending stocks  
 INVENTOR(S): Picard, Florent; Debuisschert, Quentin; Pucci, Annick  
 PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.  
 SOURCE: PCT Int. Appl., 23pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006114510	A1	20061102	WO 2006-FR912	20060424
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
FR 2885137	A1	20061103	FR 2005-4302	20050428
FR 2885137	B1	20070713		

PRIORITY APPLN. INFO.: FR 2005-4302 A 20050428  
 AB A method for production of a low-sulfur, low-olefin (higher-boiling)  
 naphtha, with a relatively high octane number, from a light (e.g., C4)  
 olefinic naphtha by: (1) oligomerization of the light olefinic naphtha  
 over an acid catalyst to produce a branched dimer-rich and  
 trimer-rich olefinic naphtha, (2) mixing the product from step (1) with a  
 naphtha rich in sulfur compds. and olefins, (3) hydrodesulfurization of  
 the mixture to hydrogenate the branched olefinic dimers and trimers and to  
 liberate H2S, and (4) separation of H2S. Catalysts for step (1) are selected  
 from silica-supported phosphoric acid, polymeric cation exchange  
 resins, acidic inorg. oxides (e.g., alumina), silica-alumina, and  
 zeolites. Hydrodesulfurization is carried out at 220-350°, 0.1-5  
 MPa, 0.5-20 h-1 space velocity, and 50-800:1 hydrogen-naphtha volume ratio,  
 over an inorg. oxide-supported metal oxide containing 0.5-15:1.5-60 weight%  
 ratio

Group VIII-Group VIB metal oxide catalysts.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2006:817676 CAPLUS  
 DOCUMENT NUMBER: 145:216479  
 TITLE: Process and device for purifying gas streams  
 INVENTOR(S): Boelt, Heinz; Gutmann, Manfred; Haering,  
 Heinz-Wolfgang; Walzl, Roland; Wenning, Ulrike  
 PATENT ASSIGNEE(S): Linde Aktiengesellschaft, Germany  
 SOURCE: Eur. Pat. Appl., 9pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1690587	A2	20060816	EP 2006-2000	20060131
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
DE 102005013276	A1	20060824	DE 2005-102005013276	20050322
PRIORITY APPLN. INFO.:				
			DE 2005-102005006538A	20050211
			DE 2005-102005009216A	20050225
			DE 2005-102005013276A	20050322

AB The invention concerns a procedure and device for purification of an olefin-containing gas stream, in particular a olefin-containing residual gas stream from a petrochem. plant or a refinery, before its operational discharge into a decomposition component for the production of one  
or

more olefin products. With the purification acid gases, catalyst poisons, nitrogen oxides, water, hydrogen and methane are removed in various purification steps, whereby the nitrogen oxides preferably catalytically converted. The process may be regulated by various operation parameters or by the concns. of various gas components.

L4 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:249306 CAPLUS

DOCUMENT NUMBER: 140:289188

TITLE: Catalytic process for fabrication of alkyl mercaptans by the addition reaction of hydrogen sulfide with alkenes

INVENTOR(S): Fremy, Georges; Essayem, Nadine; Lacroix, Michel;  
Zausa, Elodie

PATENT ASSIGNEE(S): Atofina, Fr.

SOURCE: Fr. Demande, 14 pp.

CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2844794	A1	20040326	FR 2002-11923	20020925
FR 2844794	B1	20041203		
CA 2499629	A1	20040408	CA 2003-2499629	20030923
WO 2004029005	A1	20040408	WO 2003-FR2789	20030923
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003282186	A1	20040419	AU 2003-282186	20030923
EP 1542944	A1	20050622	EP 2003-773806	20030923
EP 1542944	B1	20070214		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1701053	A	20051123	CN 2003-825392	20030923
JP 2006500416	T	20060105	JP 2004-539125	20030923
AT 353863	T	20070315	AT 2003-773806	20030923
US 2006111591	A1	20060525	US 2005-528901	20051220
PRIORITY APPLN. INFO.:				
			FR 2002-11923	A 20020925
			WO 2003-FR2789	W 20030923

OTHER SOURCE(S) : MARPAT 140:289188  
 AB Alkyl mercaptans (e.g., Et mercaptan) are prepared by the addition reaction of an olefin (e.g., ethylene) with hydrogen sulfide in the presence of hydrogen and a catalytic composition including a strong acid, such as a heteropoly acid (e.g., 12-phosphotungstic acid) and at least 1 Group VIIIB metal (e.g., Pd/SiO<sub>2</sub>).  
 REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2003:607466 CAPLUS  
 DOCUMENT NUMBER: 139:154164  
 TITLE: Procedure for the treatment of sulfide-containing liquids  
 INVENTOR(S): Ruhland, Bernhard; Fritz, Helmut  
 PATENT ASSIGNEE(S): Linde A.-G., Germany  
 SOURCE: Ger. Offen., 14 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10204654	A1	20030807	DE 2002-10204654	20020205
PRIORITY APPLN. INFO.:			DE 2002-10204654	20020205

AB A procedure for the treatment of sulfide-containing fluids is described, in particular wastewaters or the spent liquors from an olefin plant, by stripping with a carbon dioxide-containing stripping gas. In a stripping column acid gas components are driven out from the liquid, so that carbon dioxide and hydrogen sulfide containing exhaust gas accrue. For an economic operation a circulatory gas system is suggested, which separates the hydrogen sulfide in an adsorption stage. The adsorption stage is for example trained as fixed bed adsorbents with iron hydroxide or iron oxide as the adsorbent. The hydrogen sulfide is adsorbed at the iron hydroxide or iron oxide. For regeneration of the adsorbent an oxygen-containing gas can be used. Elemental sulfur accrues, which can be removed and supplied for utilization as a solid. The residual carbon dioxide-containing exhaust gas is reused for the formation of the carbon dioxide-containing stripping gas.

L4 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1999:516399 CAPLUS  
 DOCUMENT NUMBER: 131:132136  
 TITLE: Acidic mesoporous catalysts  
 INVENTOR(S): Yahav, Ganapati Dadasaheb; Krishnan, M. S.; Doshi, Nirav Shashikant; Purjari, Ajit Atmaram; Rahuman, M. S. M. Mujeebur  
 PATENT ASSIGNEE(S): Secretary Department of Science and Technology, India  
 SOURCE: Brit. UK Pat. Appl., 34 pp.  
 CODEN: BAXXDU  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2332155	A	19990616	GB 1998-27396	19981211
GB 2332155	B	20010912		

IN 1997DE03594	A	20051118	IN 1997-DE3594	19971212
JP 2000042416	A	20000215	JP 1998-375450	19981214
JP 3486566	B2	20040113		
US 6204424	B1	20010320	US 1998-211499	19981214
IN 2004DE01631	A	20060721	IN 2004-DE1631	20040830
PRIORITY APPLN. INFO.:			IN 1997-DE3590	A 19971212
			IN 1997-DE3594	A 19971212
			IN 1997-DE3595	A 19971212

OTHER SOURCE(S) : MARPAT 131:132136

AB An eco-friendly synergistic heterogeneous solid catalyst for use in reactions, such as alkylation, oligomerization, isomerization, hydration, dehydration, etherification, esterification, hydrocracking, and nitration of organic compds., comprises synergistic combination of sulfated metal oxide and mesoporous zeotypes comprising Si 50-60, Zr 40-50, and S 5-10 weight%, and having surface area of 200-500 m<sup>2</sup>/g, pore volume of 0.1-0.3 m<sup>3</sup>/g, pore diameter of 25-35 Å, and XRD peak at 20 being 0-3. The invention also covers the process of manufacture of the above catalysts and its use in particular for producing oligomers from α-olefins, Friedel-Crafts alkylation and acylation reactions.

L4 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:468033 CAPLUS  
 DOCUMENT NUMBER: 131:118312  
 TITLE: Attrition resistant catalysts and sorbents based on heavy metal poisoned FCC catalysts  
 INVENTOR(S): Gangwal, Santosh; Jothimurugesan, Kandaswamy  
 PATENT ASSIGNEE(S): Research Triangle Institute, USA  
 SOURCE: U.S., 9 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5928980	A	19990727	US 1997-795669	19970206
PRIORITY APPLN. INFO.:			US 1997-795669	19970206

AB A heavy metal poisoned, spent FCC catalyst is treated by chemical impregnating the poisoned catalyst with a new catalytic metal or metal salt to provide an attrition resistant catalyst or sorbent for a different catalytic or absorption processes, such as catalysts for Fischer-Tropsch synthesis, and sorbents for removal of sulfur gases from fuel gases and flue gases. The heavy metal contaminated FCC catalyst is directly used as a support for preparing catalysts having new catalytic properties and sorbents having new sorbent properties, without removing or passivating the heavy metals on the spent FCC catalyst as an intermediate step.

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:365009 CAPLUS  
 DOCUMENT NUMBER: 129:42051  
 TITLE: Thermoplastic sheaths with low acid-gas permeability for use in conduits under pressure  
 INVENTOR(S): Jarrin, Jacques; Perrin, Louis  
 PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.  
 SOURCE: Eur. Pat. Appl., 9 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 844429	A1	19980527	EP 1997-402750	19971117
EP 844429	B1	20040421		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
AU 9745274	A	19980528	AU 1997-45274	19971119
AU 735036	B2	20010628		
US 6110550	A	20000829	US 1997-976636 FR 1996-14432	19971124 A 19961122
PRIORITY APPLN. INFO.:				
AB The title sheaths, with low permeability to acid gases and useful on conduits carrying fluids, are prepared by extruding thermoplastics filled with materials (especially oxides) which react irreversibly with acid gases. A membrane (diameter 70 mm, thickness 2 mm) of C <sub>2</sub> H <sub>4</sub> -C <sub>3</sub> -8-olefin copolymer filled with 50% Ca(OH) <sub>2</sub> and 5% compatibilizer neutralized 95.1% CO <sub>2</sub> or H <sub>2</sub> S in 7 h at 80°/40 bar.				
REFERENCE COUNT:	7	THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

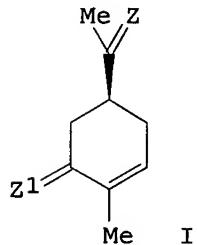
L4 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1991:669296 CAPLUS  
 DOCUMENT NUMBER: 115:269296  
 TITLE: Nitrogen-containing aromatic heterocyclic ligand-metal complexes and their use for the activation of hydrogen peroxide and dioxygen in the reaction of organic compounds  
 INVENTOR(S): Sawyer, Donald T.; Sheu, Ceshing; Sobkowiak, Andrzej; Tung, Hui Chan  
 PATENT ASSIGNEE(S): Texas A and M University, USA  
 SOURCE: PCT Int. Appl., 101 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9110634	A1	19910725	WO 1991-US147	19910108
W: JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
US 5149880	A	19920922	US 1990-573346	19900824
CA 2034167	A1	19910717	CA 1991-2034167	19910115
PRIORITY APPLN. INFO.:				
US 1990-466485 A 19900116				
US 1990-573346 A 19900824				

OTHER SOURCE(S): MARPAT 115:269296  
 AB N-containing aromatic heterocyclic ligand-metal complexes and their use for the activation of H<sub>2</sub>O<sub>2</sub> and O<sub>2</sub> are disclosed. Processes whereby activated H<sub>2</sub>O<sub>2</sub> and O<sub>2</sub> are used to transform various organic substrates are also disclosed. In particular, processes for the conversion of methylenic carbons to carbonyls, for the dioxygenation of aryl olefins, acetylenes, and aryl- $\alpha$ -diols, for the oxidation of alcs. and aldehydes, and for the removal of mercaptans from gaseous streams, and for the removal of H<sub>2</sub>S and/or mercaptans from liquid streams are disclosed. A process for the activation of O<sub>2</sub> or H<sub>2</sub>O<sub>2</sub> comprises contacting O<sub>2</sub> or H<sub>2</sub>O<sub>2</sub> with a complex of formula (L)<sub>1</sub>M(OM)<sub>m</sub>(L')<sub>n</sub>(A)<sub>p</sub>, where L,L' = a 5-10-member aromatic heterocyclic ligand containing  $\geq 1$  N atom, which ligand is unsubstituted or mono- or polysubstituted by CO<sub>2</sub><sup>-</sup>, CO<sub>2</sub>H, alkyl, cycloalkyl, or aryl, which in turn is unsubstituted or mono- or polysubstituted by CO<sub>2</sub><sup>-</sup>, CO<sub>2</sub>H, alkyl, or cycloalkyl; M = transition metal cation; A = anion; l = 1-4; m = 0 or 1; n = 0-4; and p = 0-3; under conditions suitable for said activation to take place, provided: (a) if O<sub>2</sub> is to be activated (i) M is in its reduced state and L is at least monosubstituted by CO<sub>2</sub><sup>-</sup> or CO<sub>2</sub>H when M is Fe, and (ii) L is not quinolinolate or quinolinol when M is Fe and L is not

picolinate or picolinic acid when M is Fe and L is not  
 picolinate or picolinic acid when M is Mn or Co; and (b) if H<sub>2</sub>O<sub>2</sub>  
 is to be activated, L is not pyridine, bipyridine, quinolinolate or  
 quinolinol when M is Fe and L is not picolinic acid or  
 picolinate when M is Mn or Co.

L4 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1990:612365 CAPLUS  
 DOCUMENT NUMBER: 113:212365  
 TITLE: Functionalization of saturated hydrocarbons. Part  
 XVII. Reactivity of carbon-carbon double bonds  
 AUTHOR(S): Barton, Derek H. R.; Lee, Kyu Wan; Mehl, Wolf;  
 Ozbalik, Nubar; Zhang, Li  
 CORPORATE SOURCE: Dep. Chem., Texas A and M Univ., College Station, TX,  
 77843, USA  
 SOURCE: Tetrahedron (1990), 46(11), 3753-68  
 DOCUMENT TYPE: CODEN: TETRAB; ISSN: 0040-4020  
 LANGUAGE: Journal  
 English  
 OTHER SOURCE(S): CASREACT 113:212365  
 GI



AB The Gif oxidation systems cleave methyldene olefins into the ketone or aldehyde and formaldehyde. This is considered to be a further manifestation of an VFe oxenoid species. Similarly, more substituted olefins are oxidized to the resp. unsatd. ketones or aldehydes. The oxidation of limonene (I; Z = CH<sub>2</sub>, Z<sub>1</sub> = H, H) afforded the ketone I' (Z = O, Z<sub>1</sub> = H, H), resulting from methylene cleavage, and racemic carvone (I; Z = CH<sub>2</sub>, Z<sub>1</sub> = O). The latter is considered to originate from a sym.  $\pi$ -allyl complex of iron.

L4 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1989:12935 CAPLUS  
 DOCUMENT NUMBER: 110:12935  
 TITLE: Deodorants for treatment of indoor air  
 INVENTOR(S): Murao, Kazuhiro; Masuko, Ichihiro  
 PATENT ASSIGNEE(S): Nippon Carbide Industries Co., Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
 DOCUMENT TYPE: CODEN: JKXXAF  
 LANGUAGE: Patent  
 Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63174659	A	19880719	JP 1987-5931	19870116
JP 06051054	B	19940706		

PRIORITY APPLN. INFO.: JP 1987-5931 19870116  
 AB Deodorants used in the removal of NH<sub>3</sub>, H<sub>2</sub>S, mercaptans and organic amines from odorous air are prepared by loading a metal phthalocyanine compound and

water-dispersible resin solution onto a porous support (e.g., zeolites and nonwoven fabric sheets). The deodorants have a pH of 5-13, and the water-dispersible resin solution is obtained by polymerizing  $\geq 1$  of  $\alpha$ -olefin monomer or  $\alpha,\beta$ -unsatd. carboxylic acids in the presence of a catalyst. Thus, phthalocyanineoctacarboxylic acid Fe complex 0.3, water-dispersible vinyl acetate polymer solution (viscosity 100 cP, solid components apprx.50%, pH 4.0) 100, and 10% KOH 5 weight parts were blended and then loaded on a nonwoven fabric sheet (surface area 150 g/m<sup>2</sup>) to obtain a deodorant (pH 9.0) suitable for removing H<sub>2</sub>S from odorous air.

L4 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1987:556889 CAPLUS  
 DOCUMENT NUMBER: 107:156889  
 TITLE: Surface effects during propane pyrolysis  
 AUTHOR(S): Lou, Qiangkun; Liu, Huicai; Niu, Fenghui; Zou, Renjun  
 CORPORATE SOURCE: Hebei Inst. Technol., Peop. Rep. China  
 SOURCE: Shiyou Xuebao, Shiyou Jiagong (1987), 3(1), 34-41  
 CODEN: SXSHEY; ISSN: 1001-8719  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Chinese

AB The nature of the reactor tube and its surface modifications affected the rate and nature of coke deposition during the pyrolysis of C<sub>3</sub>H<sub>8</sub> to produce C<sub>2</sub>H<sub>4</sub> and propylene. The rate of deposition was in the order preoxidized Ni > Ni > preoxidized stainless steel (I) > I > H-treated I > HCl-treated I > H<sub>2</sub>S-treated I > H<sub>2</sub>SO<sub>4</sub>-treated I > quartz. The greater the activity of the reactor surface, the more olefin adsorption and coking occurred.

L4 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1987:409348 CAPLUS  
 DOCUMENT NUMBER: 107:9348  
 TITLE: Selective hydrocarboxylation of propylene to isobutyric acid  
 INVENTOR(S): Pesa, Frederick A.; Haase, Thomas A.  
 PATENT ASSIGNEE(S): Standard Oil Co., USA  
 SOURCE: U.S., 7 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4652677	A	19870324	US 1980-128602	19800310
PRIORITY APPLN. INFO.:			US 1980-128602	19800310

AB Iso-PrCO<sub>2</sub>H (I) is manufactured by hydrocarboxylation of C<sub>3</sub>H<sub>6</sub> in the liquid phase

at 75-150°/250-5000 psi in the presence of a heat-resistant catalyst comprising Pd supported on a porous inert carrier, a hydrogen halide, and an organic arsine ligand. The inert carriers are selected from silica, alumina, aluminosilicates, silica carbide, titanium, zirconia, C, and zeolites; and the hydrogen halide is selected from the group HCl, HBr, and HI. The C<sub>3</sub>H<sub>6</sub>-Pd molar ratio is 10-2000:1, the organoarsine-Pd molar ratio is 1-100:1, and the hydrogen halide-palladium molar ratio is 5-500:1. A catalyst system containing 55% Pd on alumina-AsPh<sub>3</sub>-HCl (molar ratio 1:4:90) was fed 14.79 g C<sub>3</sub>H<sub>6</sub> over 90 min under 800-1200 psi CO in 100 mL HOAc at 110° and (1.5-2):1 water-C<sub>3</sub>H<sub>6</sub> mol ratios producing 67.5% olefin conversion with 80.5% I selectivity.

L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1953:52693 CAPLUS  
 DOCUMENT NUMBER: 47:52693

ORIGINAL REFERENCE NO.: 47:8935g-i,8936a-i,8937a-e  
TITLE: American Society for Testing Materials, Standards,  
1952. V. Fuels, petroleum, aromatic hydrocarbons,  
engine antifreezes

SOURCE: (1952), 1253 pp.

DOCUMENT TYPE: Book

LANGUAGE: Unavailable

AB Standards or tentative standards, adopted or revised in 1952 are given for: distillation of crude petroleum; gravity of petroleum and its products; ASTM-IP petroleum measurement tables; reduced pressure distillation of petroleum products; test for S in petroleum products and lubricants; test for water in petroleum products and other bituminous materials; test for water and sediment; definitions of terms relating to petroleum; test for C<sub>2</sub>H<sub>2</sub> in polymerization-grade butadiene; tests for b.p. range and butadiene content of polymerization-grade butadiene; carbonyl content of butadiene; test for 1,3-butadiene in C<sub>4</sub> hydrocarbon mixts.; measurement of f.ps. for evaluation of purity; tests for O in butadiene vapors and for peroxides in butadiene; determination of purity from f.ps.; sampling petroleum and petroleum products; tests for separation of residue from butadiene and for butadiene dimer and nonvolatile residue of polymerization-grade butadiene; test for total inhibitor content (p-tert-butylcatechol) of butadiene; distillation test of gasoline, naphtha, kerosine, and similar petroleum products; test for viscosity and for flash and fire points; tests for flash point by Pensky-Martens closed tester and by Tag closed tester; method of calculating viscosity index; conversion of kinematic viscosity to Saybolt Furol viscosity; vacuum distillation of liquid and semi-solid asphaltic materials to obtain a residue of specified penetration; test for softening point; asphalt-base emulsions for use as protective coatings for built-up roofs; gasoline and aviation gasoline; acidity of residue from distillation of gasoline and of petroleum solvents; analysis of 60 octane number iso-octane-normal heptane ASTM knock test reference fuel blends; test for aromatic hydrocarbons in olefin-free gasolines; test for autogenous ignition temps. of petroleum products; tests for C<sub>6</sub>H<sub>6</sub> and toluene, Br number of petroleum distillates, color of refined petroleum oil, and color of U.S. Army motor fuel; measurement of d. and sp. gr. of liquids; distillation of natural gasoline; gaging petroleum and petroleum products; test for existent gum in fuels and in gasoline; test for H in petroleum fractions; test for knock characteristics of aviation and motor fuels; test for mercaptan S in jet fuels; test for olefins and aromatics in petroleum distillates; test for oxidation stability of gasoline and aviation gasoline; measurement of refractive index and refractive dispersion of hydrocarbon liquids; test for free and corrosive S in petroleum products; test for S in petroleum products; test for tetraethyllead in gasoline; tests for heat of combustion of liquids, and of vapor pressure of petroleum products; volume calcns. and corrections in measurement of petroleum and petroleum products; test for water tolerance of aviation fuels; petroleum spirits; Stoddard solvent; reagent water; test for d. of hydrocarbon liquids; test for distillation range of lacquer solvents and diluents; tests for heptane number; kauri-butanol value and nitrocellulose diluting power of hydrocarbon solvents; test for olefinic plus aromatic hydrocarbons in petroleum distillates; classification of Diesel fuel oils; farm tractor fuels and fuel oils; test for aniline point and mixed aniline point of petroleum products and hydrocarbon solvents; test for ash content of petroleum oils; test for burning qualities of kerosine, mineral seal oil, and of long-time burning oil for railway use; test for C residue of petroleum products; test for cloud and pour points; distillation test of gas oil and similar distillate fuel oils; test for ignition value of Diesel fuels; test for neutralization value (acid and base nos.); test for sediment in fuel oil; conversion of kinematic viscosity to Saybolt universal viscosity; test for kinematic viscosity; test for Cl in

lubricating oils and greases; test for color of lubricating oil and petrodatum; test for dilution of crankcase oils; tests for steam emulsion of lubricating oils and evaporation loss of lubricating greases and oils; test for foaming characteristics of crankcase oils; chemical analysis for metals in lubricating oils; test for normal pentane and C<sub>6</sub>H<sub>6</sub> insolubles in used lubricating oils; test for P in lubricating oils, lubricating-oil additives, and their concentrates; sampling coals classed according to ash content; laboratory sampling and analysis of coal and coke; sampling and fineness test of powdered coal; sampling and analysis of coal for volatile-matter determination; test for grindability and screen analysis of coal;

drop shatter and tumbler tests for coal; designating the size of coal from screen analysis; test for size of anthracite; tests for sieve analysis and cu. ft. weight of crushed bituminous coal; index of dustiness of coal and coke; test for free-swelling index of coal; classification of coals by rank and grade; gas and coking coals; sieves for testing purposes; definitions of terms relating to coal and coke, gross and net calorific values of solid and liquid fuels, and of com. varieties of bituminous and sub-bituminous coals; sampling coke for analysis; test for volume of cell space of lump coke; drop shatter and tumbler tests of coke; tests for sieve analysis and cu. ft. weight of coke; test for sp. gr. and calorific value of gaseous fuels; analysis of natural gases and related types of gaseous mixts.; test for water-vapor content of gaseous fuels; sampling manufactured gas; industrial 90, nitration and industrial-grades C<sub>6</sub>H<sub>6</sub>; refined, crude light, and crude heavy solvent naphthas; nitration and industrial-grades toluene; 5°, 10°, nitration, and industrial-grades xylene; test for acidity and acid wash color of C<sub>6</sub>H<sub>6</sub>, toluene, xylenes, solvent naphthas, and similar industrial aromatic hydrocarbons; test for Cu corrosion, distillation, and paraffins of industrial aromatic hydrocarbons; test for solidifying point of benzenes; tests for sp. gr., color, H<sub>2</sub>S, and SO<sub>2</sub> content of industrial hydrocarbons; test for thiophene in C<sub>6</sub>H<sub>6</sub>; hydrometer-thermometer field test and b.p. of engine antifreezes; tests for ash content, reserve alkalinity, sp. gr., and water of concentrated antifreezes; test for precipitation number of lubricating oils; test

for saponification number of petroleum products; test for Na in lubricating oil and

lubricating-oil additives; test for sulfated residue from new lubricating oils; test for sulfated residue, Pb, Fe, and Cu in new and used lubricating oils; viscosity-temperature charts for liquid petroleum products; test for interfacial tension of oil against water; test for oxidation characteristics of inhibited steam-turbine oils; test for rust-preventing characteristics of steam-turbine oil in the presence of water; tests for elec. insulating oils, askarels, inorg. chlorides and sulfates in insulating oils, dielec. strength of insulating oils of petroleum origin, and gas content of insulating oils; test for power factor and dielec. constant of elec. insulating oils of petroleum origin; sampling elec. insulating oils; test for sludge formation in mineral transformer oil; detection of free S in elec. insulating oils; purchase of uninhibited mineral oil for use in transformers and oil circuit breakers; analysis of Ca, Ba, and oil-soluble Na petroleum sulfonates; distillation test of plant spray

oils; test for unsulfonated residue of petroleum plant spray oils; analysis of grease; apparent viscosity, cone penetration, and dropping point of lubricating grease; test for oxidation stability of lubricating greases; test for carbonizable substances in paraffin wax and white mineral oil; test for congealing point of pharmaceutical petrolatums; testing hydrocarbon waxes used for elec. insulation; m.ps. of paraffin wax, petrodatum, and microcryst. wax; test for oil content of paraffin wax; test for penetration of petrodatum; measurement of gaseous fuel samples; measuring temperature of petroleum and petroleum products; sampling natural gas; sampling and preparing aqueous solns. of engine antifreeze for testing purposes; f.p. of aqueous engine antifreeze solns.; determination of pH of aqueous

solns. with glass electrode; designating significant places in specified limiting values; definitions of terms relating to sp. gr., screen, rheological properties of matter, and of conditioning and weathering; ASTM thermometers; and method of testing and standardization of etched-stem liquid-in-glass thermometers. Tentative revisions submitted in 1952 are given for: test for existent gum in gasoline.

=>

10/528,901 (A) REACT SEARCH

FILE 'HOME' ENTERED AT 16:16:53 ON 21 AUG 2007

=> file casreact  
COST IN U.S. DOLLARS

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FILE CONTENT:1840 - 18 Aug 2007 VOL 147 ISS 9

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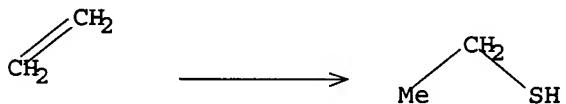
Some CASREACT records are derived from the ZIC/VINITI database (1974-1999) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

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L1 STRUCTURE UPLOADED

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L1 HAS NO ANSWERS  
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INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.01

PROJECTED VERIFICATIONS: 161060 TO 171940  
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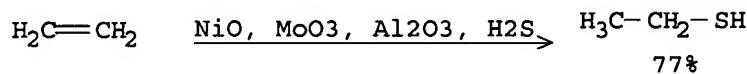
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SEARCH TIME: 00.00.17

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L3 ANSWER 1 OF 2 CASREACT COPYRIGHT 2007 ACS on STN

RX(1) OF 1

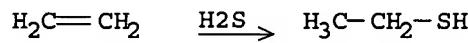


REF: Rom., 114253, 26 Feb 1999

NOTE: high pressure, thermal, 320.degree., 4 bar

L3 ANSWER 2 OF 2 CASREACT COPYRIGHT 2007 ACS on STN

RX(1) OF 2



REF: Org. Reactions (A. C. Cope, Editor-in-Chief, John Wiley and Sons, Inc., New York, 1963), 13,, 150-376; 1963

NOTE: Classification: "1,2-Addition"; Thiolation; # Conditions: H<sub>2</sub>S; # Comments: Review article; Generic reactions of olefins